

Notice of Allowability	Application No.	Applicant(s)	
	10/802,021	KINSTLER, GARY A.	
	Examiner Timothy D. Collins	Art Unit 3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to telephone interview of 12/22/05.
2. ☒ The allowed claim(s) is/are 9-16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>12/22/05</u>. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
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EXAMINER'S AMENDMENT

1. An extension of time under 37 CFR 1.136(a) is required in order to make an examiner's amendment which places this application in condition for allowance. During a telephone conversation conducted on 12/22/05, Keith Roberson requested an extension of time for 2 MONTH(S) and authorized the Director to charge Deposit Account No. 16-0605 the required fee of \$450 for this extension and authorized the following examiner's amendment. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Amendments to the Claims:

9. (Currently Amended) An apparatus for maneuvering an exit vehicle departing from a rotating non-terrestrial space vehicle, the apparatus comprising:

processing circuitry, carried by the exit vehicle, for: (i) determining a composite spin axis of the rotating non-terrestrial space vehicle to define a plurality of spin axis planes that are perpendicular to the composite spin axis, wherein an exit flight path of the exit vehicle is defined in the plurality of spin axis planes; and (ii) determining a spin rate of the rotating non-terrestrial space vehicle about the composite spin axis;

launch mechanism for: (iii) launching the exit vehicle from the rotating non-terrestrial space vehicle with a departure velocity, wherein the departure velocity includes a V_S component defined in the plurality of spin axis planes; and

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thruster device for: (iv) applying a lateral thrust to the exit vehicle that is generally orthogonal to the V_s component of departure velocity to provide a lateral acceleration, wherein the lateral acceleration is defined in the spin axis plane, and wherein the lateral acceleration provides a turn rate of the exit vehicle's V_s component in the spin axis plane about the composite spin axis that is proportionate to the spin rate of the rotating non-terrestrial space vehicle.

10. (Currently Amended) An apparatus according to Claim 9 wherein the processing circuitry determines a root-sum-square of angular velocities of the rotating non-terrestrial space vehicle about all three space vehicle axes to determine the composite spin axis of the rotating non-terrestrial space vehicle.

13. (Currently Amended) An apparatus according to Claim 9 wherein the rotating non-terrestrial space vehicle comprises a space station and wherein the launch mechanism provides a generally linear exit trajectory in relation to the space station~~vehicle coordinates~~, in a direction of the departure velocity when launching the exit vehicle.

14. (Currently Amended) An apparatus according to Claim 9 wherein the thruster device applies the lateral thrust to provide a turn rate of the exit vehicle's V_s component in the spin axis plane that is proportionate to the spin rate of the rotating non-terrestrial space vehicle such that the turn rate is equal to the spin rate of rotating non-terrestrial space vehicle, such that the exit vehicle turns in synchronization with the rotating non-terrestrial space vehicle.

15. (Currently Amended) An apparatus according to Claim 9 wherein the thruster device applies the lateral thrust to provide a turn rate of the exit vehicle's V_s component in the spin axis plane that is faster than the spin rate of the rotating non-terrestrial space vehicle.

16. (Currently Amended) An apparatus according to Claim 9 wherein the thruster device applies the lateral thrust to provide a turn rate of the exit vehicle's V_s

component in the spin axis plane that is slower than the spin rate of the rotating non-terrestrial space vehicle.

Claims 1-8 are cancelled.

Claim 11 is allowed as originally presented.

Claim 12 is hereby rejoined.

Claims 17-24 are cancelled.

Therefore **claims 9-16 are allowed** over the prior art.

2. The following is an examiner's statement of reasons for allowance: the prior art of record all failed to show either alone and/or in combination an apparatus for maneuvering a departure vehicle from a non-terrestrial rotating space vehicle with processing circuitry on the exit vehicle and also the departure of the vehicle in the directions and axes of those stated in the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

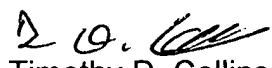
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy D. Collins whose telephone number is 571-272-

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6886. The examiner can normally be reached on M-F, 7:00-3:00, with every other Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Timothy D. Collins
Patent Examiner
Art Unit 3643


Peter M. Poon
Supervisory Patent Examiner
Technology Center 3600

12/22/05